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DATA
SUMMARY
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This Data Summary is one of a series of leading cause of death reports.

Highlights

- In 2004, the number of chronic liver disease and cirrhosis deaths among males was much higher than among females.
- During this year the California chronic liver disease and cirrhosis age-adjusted death rate of 10.6 deaths per 100,000 population did not meet the *Healthy People 2010* objective of no more than 3.0 deaths.
- American Indians had a higher chronic liver disease and cirrhosis age-adjusted death rate than the other four race/ethnic groups.

Chronic Liver Disease and Cirrhosis Deaths in California, 2004

By Daniel H. Cox

Introduction

Chronic liver disease and cirrhosis has been historically one of the leading causes of death in the United States (U.S.) and in California. There are many risk factors for chronic liver disease and cirrhosis such as excessive alcohol consumption, chronic viral hepatitis, congenital and inherited diseases, and prolonged exposure to environmental toxins, but the primary risk factor is excessive alcohol consumption. Currently, nearly 17.6 million adult Americans abuse alcohol or are alcoholic.¹

This report presents data on chronic liver disease and cirrhosis deaths for 2004 and provides analysis of crude and age-adjusted death rates for California residents by sex, age, race/ethnicity, and county. The definition of chronic liver disease and cirrhosis used in this report is based on the International Classification of Diseases, Tenth Revision (ICD-10) codes K70, K73, and K74 in accordance with the National Center for Health Statistics (NCHS).²

Chronic Liver Disease and Cirrhosis Deaths

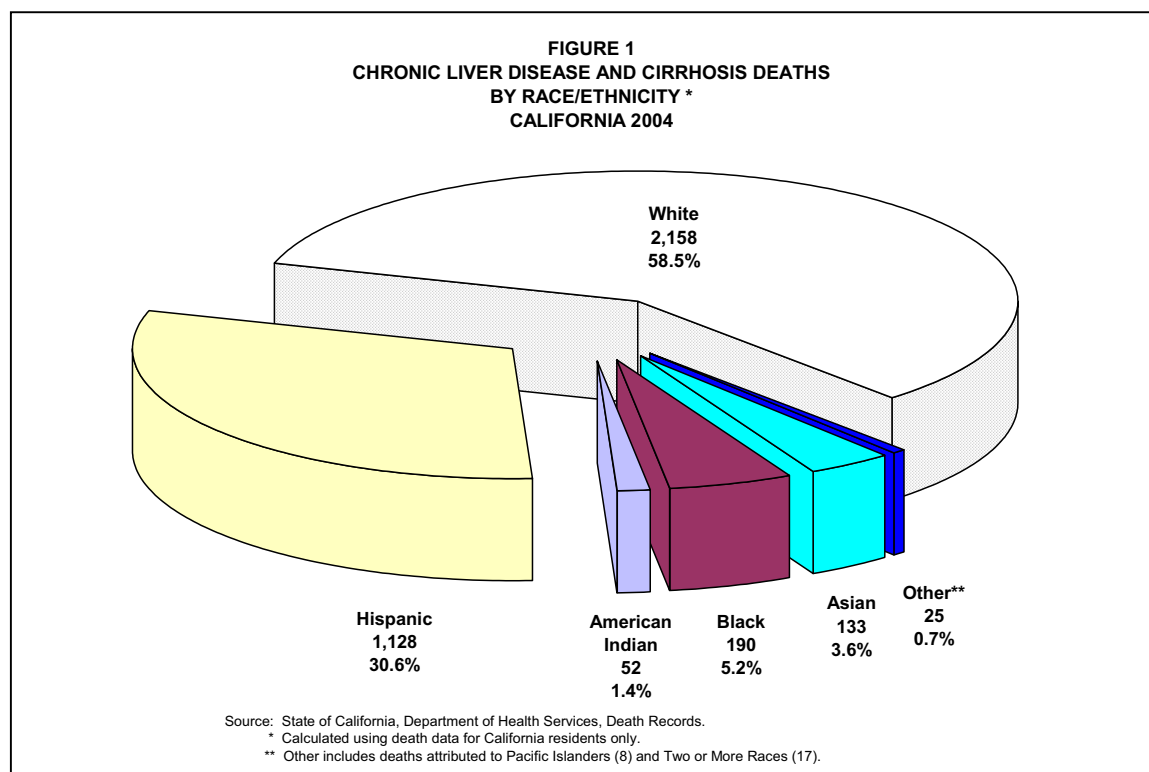
Table 1 (pages 11 and 12) displays chronic liver disease and cirrhosis death data for 2004 by race/ethnicity, age, and sex. During this period, the number of deaths attributed to chronic liver disease and cirrhosis was much higher among males (2,477) than among females (1,209). As shown in **Figure 1** (page 2), the number of chronic liver disease and cirrhosis deaths among Whites (2,158) was higher than Hispanics (1,128), Blacks (190), Asians (133), and American Indians (52). Not displayed in **Table 1** but included in the total are Pacific Islanders (8) and Two or More Races (17).

As shown in **Table 1**, chronic liver disease and cirrhosis deaths occur almost exclusively among the adult population in California, and this held true in 2004 with only three deaths occurring among California residents age 24 years and younger.

¹ National Institute on Alcohol Abuse and Alcoholism. Alcoholism, Getting the Facts, NIH Publication Number 96-4153, Revised 2004.

² National Center for Health Statistics. Vital Statistics, Instructions for Classifying the Underlying Cause of Death, 2005. NCHS Instruction Manual, Part 2a. Public Health Service, Hyattsville, Maryland. December 2005.

A brief overview of [data limitations and qualifications](#) is provided at the end of this report.



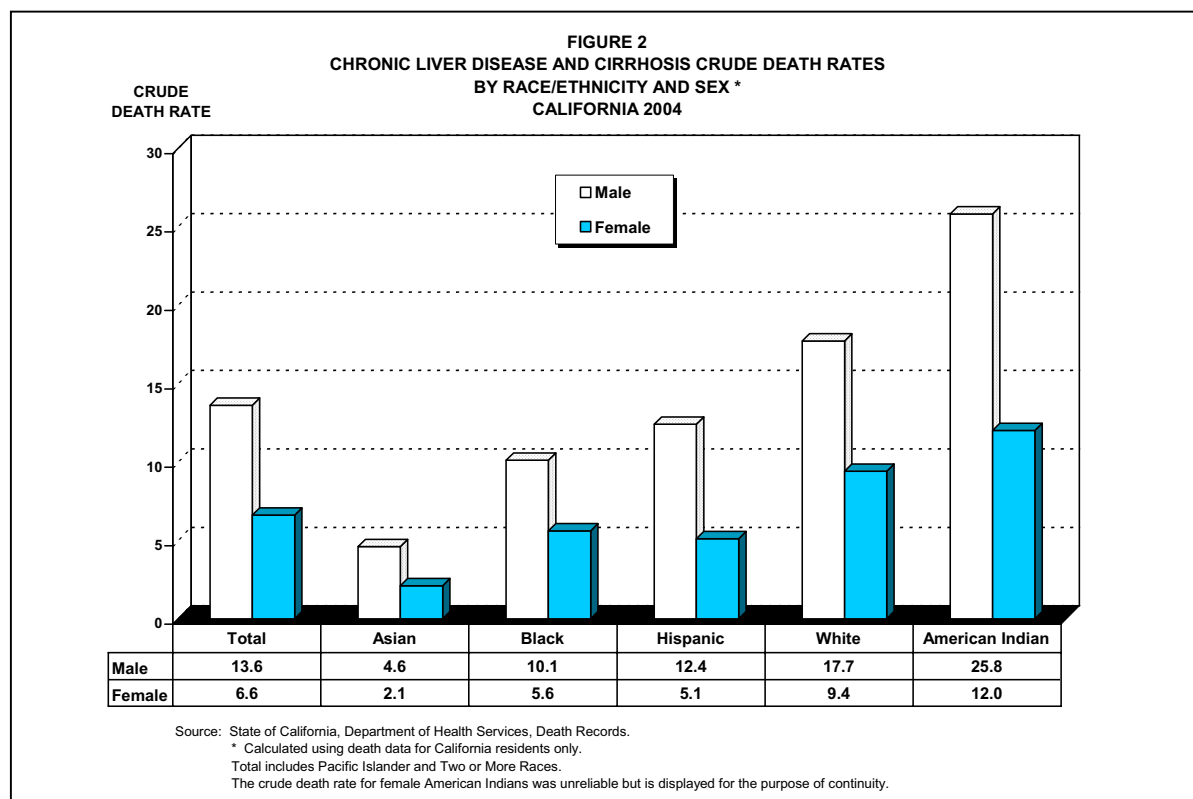
Chronic Liver Disease and Cirrhosis Crude Death Rates

The chronic liver disease and cirrhosis crude death rate for California decreased from 10.8 deaths per 100,000 population in 2000 to 10.1 deaths in 2004.³ This decrease from 2000 to 2004 was statistically significant. As shown in **Table 1** (pages 11 and 12), American Indians had the highest crude death rate in 2004, a rate of 18.8. Whites were next with a crude rate of 13.5, followed by Hispanics with 8.8, Blacks with 7.8, and Asians with 3.3. In a comparison with year 2000, American Indians had a chronic liver disease and cirrhosis crude death rate of 21.8, Hispanics had a crude rate of 10.1 and Blacks had a crude rate of 9.6, all of which were higher than their respective rates for 2004. In contrast, Asians had a crude death rate of 3.2 in 2000, a rate lower than their companion rate for 2004. Differences among the rates for Hispanics and among the rates for Blacks were statistically significant. The crude rate for Whites was 13.5 in both 2000 and 2004.

As seen in **Figure 2** (page 3), in 2004 males had an overall chronic liver disease and cirrhosis crude death rate of 13.6, which was 2.1 times higher than the female rate of 6.6. Males in race/ethnic groups with reliable rates had higher crude death rates than females in the corresponding race/ethnic groups for the year 2004. White males had a rate of 17.7 deaths per 100,000 population and White females had a rate of 9.4. Hispanic males with a rate of 12.4 and Hispanic females with a rate of 5.1 had the highest ratio of male to female deaths at 2.4 male deaths for every female death. Black males had a rate of 10.1 and Black females had a rate of 5.6. Asian males had a rate of 4.6 and Asian females had a rate of 2.1. The differences between males and females in the four race/ethnic groups and overall were statistically significant. American Indian males had a rate of 25.8, but the rate for American Indian females was unreliable so a comparison could not be made.

³ Cox D. Chronic Liver Disease and Cirrhosis Deaths in California, 2000-2003. Data Summary. Center for Health Statistics, California Department of Health Services, May 2005.

See the [Methodological Approach Section](#) later in this report for an explanation of crude, age-specific, and age-adjusted death rates.



Chronic Liver Disease and Cirrhosis Age-Specific Death Rates

In **Table 1** (pages 11 and 12), reliable age-specific rates show that among the sexes in 2004, males overall had higher chronic liver disease and cirrhosis death rates than females. This held true among Whites, Hispanics, and Blacks. Among Asians and American Indians, none of the rates could be compared because of a lack of reliability.

Table 1 also shows that among reliable rates in 2004, in the 25 to 34 age group Hispanics (1.2) had the only reliable chronic liver disease and cirrhosis age-specific death rate. In the 35 to 44 age group Hispanics and Whites shared the highest rate (8.9) and Blacks had a lower rate (5.8). In the 45 to 54 age group American Indians (44.7) had the highest death rate while Hispanics (29.5), Whites (23.3), Blacks (19.1), and Asians (3.9) had lower rates. This was the only age group where American Indians had a reliable age-specific death rate. In the 55 to 64 age group Hispanics (37.1) had the highest death rate while Blacks (30.1), Whites (28.4), and Asians (7.8) had lower rates. The pattern was similar in the 65 to 74 age group where Hispanics (52.6) again had the highest death rate while Whites (30.5), Blacks (19.8), and Asians (7.7) had lower rates. In the 75 to 84 age group Hispanics (65.5) had the highest death rate while Whites (27.2) and Asians (20.1) had lower rates. In the 85 and Older age group only Whites (19.6) had a reliable chronic liver disease and cirrhosis age-specific death rate.

Chronic Liver Disease and Cirrhosis Age-Adjusted Death Rates

In 2004 the California chronic liver disease and cirrhosis age-adjusted death rate of 10.6 deaths per 100,000 population was higher than the United States rate of 8.8.⁴ During this

⁴ Miniño A, Heron M, Smith B. Deaths: Preliminary data for 2004. Health E-Stats. Released April 19, 2006.

You can read more about crude and age-adjusted rates on the National Center for Health Statistics website at www.cdc.gov/nchs/

period, California did not meet the *Healthy People 2010* objective of no more than 3.0 chronic liver disease and cirrhosis age-adjusted deaths per 100,000 population.⁵ The 2004 California death rate did decrease significantly from 2003 when the rate was 11.3.³

Displayed in **Table 1** (pages 11 and 12), a comparison among the five race/ethnic groups shows that in 2004 American Indians had a chronic liver disease and cirrhosis age-adjusted death rate of 20.5, which was significantly higher than the Hispanic rate of 15.6, the White rate of 10.7, the Black rate of 8.8, and the Asian rate of 3.4.

As shown in **Figure 3**, in 2004 reliable rates show that chronic liver disease and cirrhosis age-adjusted death rates for males were higher than for females in four of the five race/ethnic groups and overall. These gender differences were statistically significant. The comparison of gender differences among American Indians could not be made because the rate for females was unreliable.

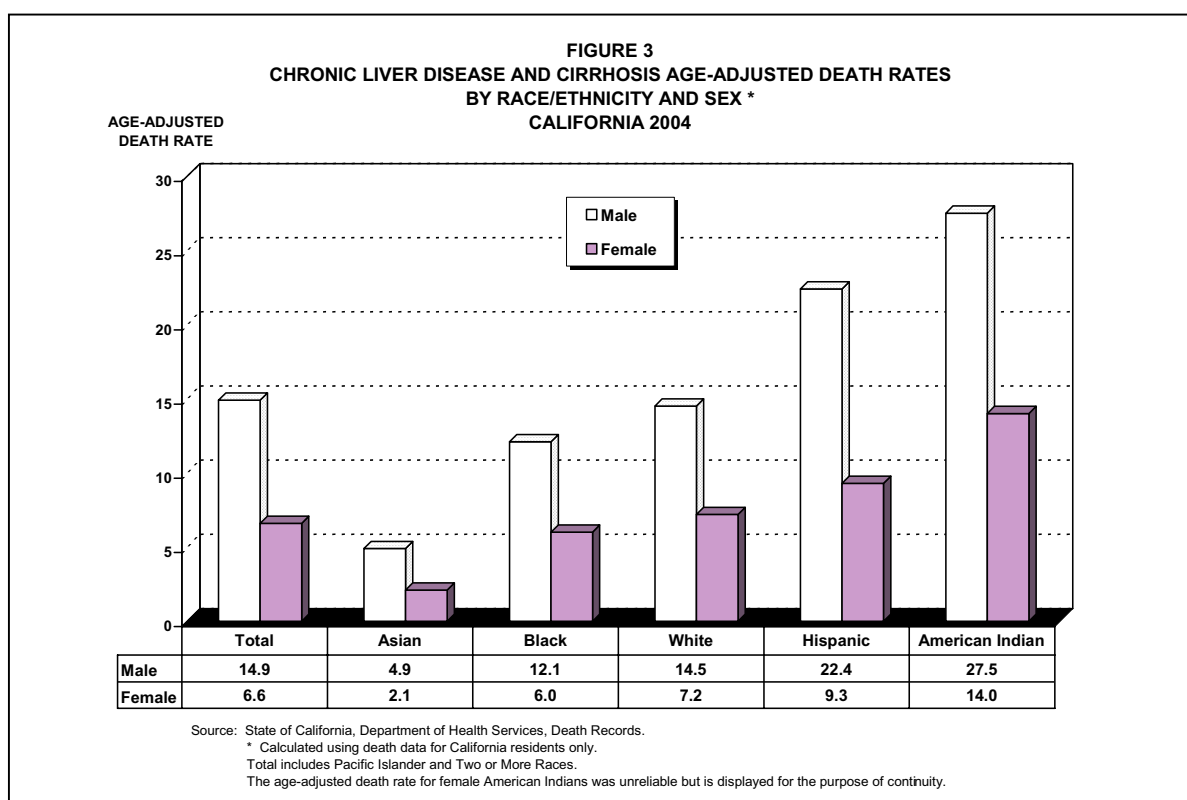


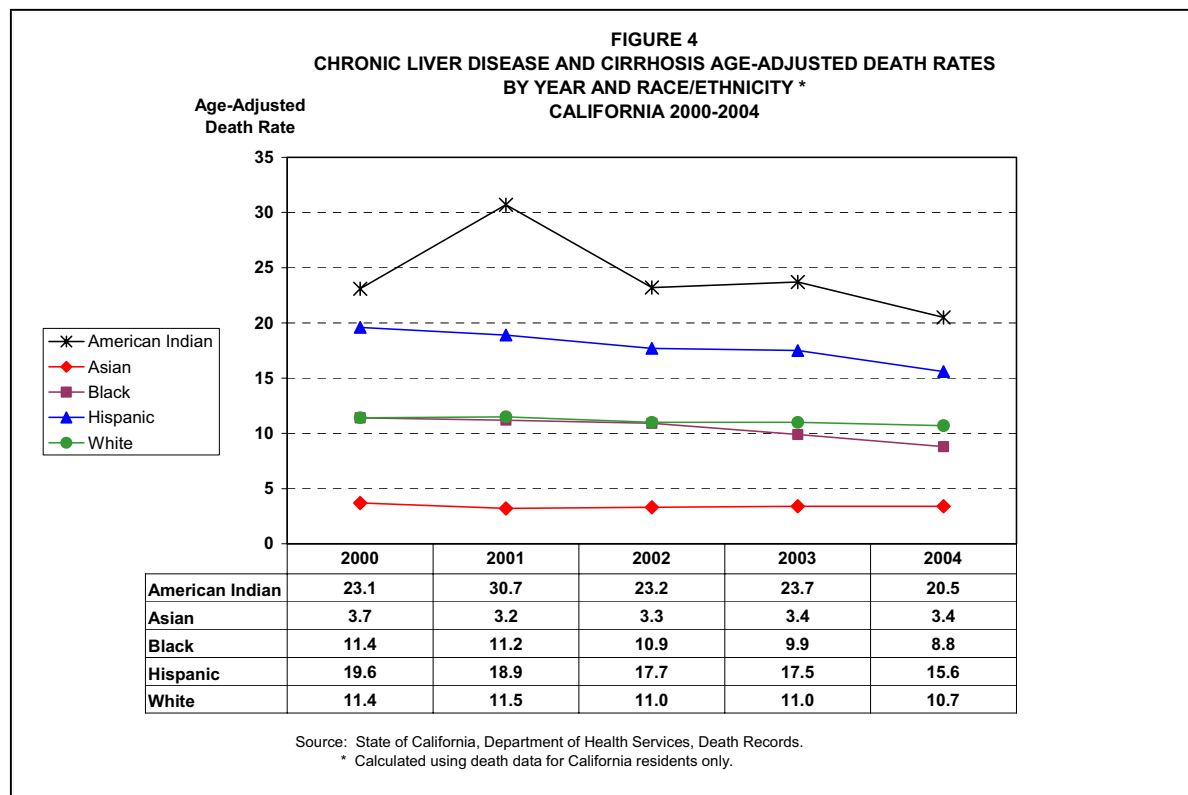
Figure 3 also shows that of the 2004 chronic liver disease and cirrhosis age-adjusted death rates among males, American Indians had the highest rate and Hispanics, Whites, Blacks, and Asians had lower rates. Among females with reliable rates, Hispanics had higher death rates than Whites, Blacks, and Asians. As mentioned previously the age-adjusted death rate for American Indian females was unreliable.

As displayed in **Figure 4** (page 5), among the five race/ethnic groups presented in this report the chronic liver disease and cirrhosis age-adjusted death rate varied over the five-year period from 2000 to 2004. In a comparison between 2000 and 2004 all rates decreased. The American Indian rate of 23.1 deaths per 100,000 population in 2000

⁵ U.S. Department of Health and Human Services. *Healthy People 2010* Volume II. Washington DC: U.S. Government Printing Office, November 2000

See the Vital Statistics Query System (VSQ) at our website www.applications.dhs.ca.gov/vsq/default.asp to create your own vital statistics tables.

declined 11.3 percent to a rate of 20.5 in 2004. The Hispanic age-adjusted death rate of 19.6 in 2000 declined 20.4 percent to a rate of 15.6 in 2004. Whites had a rate of 11.4 in 2000 that declined 6.1 percent to a rate of 10.7 in 2004. Blacks had a rate of 11.4 in 2000 that decreased 22.8 percent to a rate of 8.8 in 2004. Asians had an age-adjusted death rate of 3.7 in 2000 that decreased 8.1 percent to a rate of 3.4 in 2004. The differences in rates from 2000 to 2004 among Blacks, Hispanics, and Whites were statistically significant.



Chronic Liver Disease and Cirrhosis Death Data for California Counties

Table 2 (page 13) displays the number of deaths, crude death rates, and age-adjusted death rates by county averaged over a three-year period, 2002 to 2004. This averaging is done to reduce the large fluctuations in the death rates that are inherent among counties with a small number of events and/or population.

Los Angeles County (1,058.0) had the highest average number of chronic liver disease and cirrhosis deaths and Alpine County (0.3) had the lowest.

The highest and lowest reliable chronic liver disease and cirrhosis crude death rates were in Butte County (18.4 deaths per 100,000 population) and Santa Clara County (7.4).

The status of chronic liver disease and cirrhosis age-adjusted death rates among the counties showed Kern County with the highest reliable rate (18.4 deaths per 100,000 population) and Santa Clara County with the lowest (7.8).

As seen in **Table 2**, in 2004 nine counties had a significantly different chronic liver disease and cirrhosis age-adjusted death rate than the California rate of 11.0; all of these county death rates were reliable.

For more data, see DHS Center for Health Statistics, Office of Health Information and Research website at www.dhs.ca.gov/ohir

Figure 5 (page 10) graphically presents 2004 chronic liver disease and cirrhosis age-adjusted death rates for California counties in a quartile format with a separate pattern to display counties with unreliable rates.

Chronic Liver Disease and Cirrhosis Death Data by City Health Jurisdiction

Table 3 displays the number of deaths and crude death rates for California's three city health jurisdictions averaged over a three-year period, 2002 to 2004. Age-adjusted death rates were not calculated for the city health jurisdictions because city population estimates by age were not available.

The city of Long Beach had an annual average of 50.0 chronic liver disease and cirrhosis deaths for the three-year period, Pasadena had 15.3, and Berkeley had 7.7.

Pasadena had a chronic liver disease and cirrhosis crude death rate of 10.8 deaths per 100,000 population, Long Beach had a crude rate of 10.4, and Berkeley had a crude rate of 7.4. The rates for Pasadena and Berkeley were not reliable.

TABLE 3
CHRONIC LIVER DISEASE AND CIRRHOSIS DEATHS
AMONG THE CITY HEALTH JURISDICTIONS*
CALIFORNIA, 2002-2004

CITY HEALTH JURISDICTION	NUMBER OF DEATHS (Average)	2003 POPULATION	CRUDE DEATH RATE
BERKELEY	7.7	104,192	7.4 +
LONG BEACH	50.0	481,026	10.4
PASADENA	15.3	142,217	10.8 +

Note: Rates are per 100,000 population. Data is ICD-10 codes K70, K73-K74.

* Calculated using death data for California residents only.

+ Death rate unreliable, relative standard error is greater than or equal to 23 percent.

Source: State of California, Department of Finance, E-4 Population Estimates for Cities, Counties and the State, 2001-2005, with 2000 DRU Benchmark, May 2005.
State of California, Department of Health Services, Death records.

Methodological Approach

The methods used to analyze vital statistics data are important. Analyzing only the number of deaths has its disadvantages and can be misleading because the population at risk is not taken into consideration. Crude death rates show the actual rate of dying in a given population, but because of the differing age compositions of various populations, crude rates do not provide a statistically valid method for comparing geographic areas and/or multiple reporting periods. Age-specific death rates are the number of deaths per 100,000 population in a specific age group and are used along with standard population

proportions to develop a weighted average rate. The weighted average rate is referred to as an age-adjusted death rate and removes the effect of different age structures of the populations whose rates are being compared. Age-adjusted death rates therefore provide the preferred method for comparing different race/ethnic groups, sexes, and geographic areas and for measuring death rates over time.

Age-adjusted rates are presented when the single, summary measure is needed, but data analysts should inspect age-specific rates first.⁶ Age-specific rates provide insights to important age-related mortality trends that can be masked by age-adjusted rates. For example, a shift in the number of deaths from one age group to another could produce very little change in the age-adjusted rate, but may warrant further investigation. In addition, analysis of age-specific rates can reveal that populations being compared do not show a consistent relationship (e.g., the trend is not in the same direction for all age-specific rates) in which case the analysis of age-specific rates is recommended over age-adjusted rates.

Data Limitations and Qualifications

The chronic liver disease and cirrhosis death data presented in this report are based on vital statistics records with ICD-10 codes K70, K73-K74 as defined by the NCHS.² Deaths by place of residence means that the data include only those deaths occurring among residents of California, regardless of the place of death.

The term “significant” within the text indicates statistical significance based on the difference between two independent rates ($p < .05$). Significant difference between the county and State age-adjusted death rates was determined by comparing the 95 percent confidence intervals (CI) of the two rates, which are based on the rate, standard deviation, and standard error. Rates were considered to be significantly different from each other when their CIs (rounded to the nearest hundredth) did not overlap. If the upper limit of the county CI fell below the lower limit of the State CI, the county rate was deemed to be significantly lower. If the lower limit of the county CI exceeded the higher limit of the State CI, the county rate was deemed to be significantly higher. Significant differences of overlapping CIs were not addressed in this report. Overlapping CIs require a more precise statistical measure to determine significant and non-significant differences in rates because CIs may overlap as much as 29 percent and still be significantly different.⁷

As with any vital statistics data, caution needs to be exercised when analyzing small numbers, including the rates derived from them. Death rates calculated from a small number of deaths and/or population tend to be unreliable and subject to significant variation. To assist the reader, the 95 percent CIs are provided in the data tables as a tool for measuring the reliability of death rates. Rates with a relative standard error (coefficient of variation) greater than or equal to 23 percent are indicated with an asterisk (*). The CIs represent the range of values likely to contain the “true” value 95 percent of the time.

⁶ Choi BCK, de Guia NA, and Walsh P. Look before you leap: Stratify before you standardize. *American Journal of Epidemiology*, 149: 1087-1096. 1999.

⁷ van Belle G. *Statistical Rules of Thumb*, Rule 2.5. Wiley Publishing. March 2002.

Some of the [earlier reports](#) on this subject are available online at www.dhs.ca.gov/ohir

Beginning in 1999, cause of death is reported using ICD-10.⁸ Cause of death for 1979 through 1998 was coded using the International Classification of Diseases, Ninth Revision (ICD-9). Depending on the specific cause of death, the numbers of deaths and death rates are not comparable between ICD-9 and ICD-10. Therefore, our analyses do not combine both ICD-9 and ICD-10 data.

To meet the U.S. Office of Management and Budget minimum standards for race and ethnicity data collection and reporting, the report presents the following race/ethnic groups: American Indian, Asian, Black, Hispanic, Pacific Islander, White, and Two or More Races. Hispanic origin of decedents is determined first and includes any race group. Second, decedents of the Two or More Races group are determined and are not reported in single race groups. In order to remain consistent with the population data obtained from the Department of Finance, the single race groups are defined as follows: the “American Indian” race group includes Aleut, American Indian, and Eskimo; the “Asian” race group includes Asian Indian, Asian (specified/unspecified), Cambodian, Chinese, Filipino, Hmong, Japanese, Korean, Laotian, Thai, and Vietnamese; the “Pacific Islander” race group includes Guamanian, Hawaiian, Samoan, and Other Pacific Islander; the “White” race group includes White, Other (specified), Not Stated, and Unknown.

Caution should be exercised in the interpretation of mortality data by race/ethnicity. Misclassification of race/ethnicity on death certificates may contribute to death rates that may be understated among American Indians, Asians, Hispanics, and Pacific Islanders.⁹ This problem could contribute to understatements of rates for the Two or More Races group as well. All race groups may not be individually displayed on the tables due to unreliable rates, but the State totals do include their data.

Beginning in 2000 federal race/ethnicity reporting guidelines changed to allow reporting of more than one race on death certificates. California initiated use of the new guidelines on January 1, 2000, and collects up to three races. California’s population estimates recently added the Multirace (Two or More Races) group. To be consistent with the population groups, current reports tabulate race of decedent using all races mentioned on the death certificate. Therefore, prior reports depicting race group statistics based on single race are not comparable with current reports.

The 2000 U.S. population standard was used for calculating age-adjustments in accordance with statistical policy implemented by NCHS.¹⁰ Age-adjusted death rates are not comparable when rates are calculated with different population standards, e.g., the 1940 standard population. Additionally, population data used to calculate city crude rates in **Table 3** (page 6) differ from population data used to calculate county crude rates in **Table 2** (page 13). Caution should be exercised when comparing the crude rates of the three city health jurisdictions with the crude rates of the 58 California counties. Age-adjusted rates for city health jurisdictions were not calculated.

⁸ World Health Organization. International Statistical Classification of Diseases and Related Health Problems. Tenth Revision. Geneva: World Health Organization. 1992.

⁹ Rosenberg HM, et al. Quality of Death Rates by Race and Hispanic Origin: A Summary of Current Research, 1999. Vital and Health Statistics, Series 2, No.128, National Center for Health Statistics, DHHS Pub. No. (PHS) 99-1328. September 1999

¹⁰ Anderson RN, Rosenberg HM. Age Standardization of Death Rates: Implementation of the Year 2000 Standard. National Vital Statistics Reports; Volume 47, No. 3, Hyattsville, Maryland: National Center for Health Statistics. October 1998

A more complete explanation of age-adjustment methodology is available in the "Healthy People 2010 Statistical Notes" publication.¹¹ Detailed information on data quality and limitations is presented in the appendix of the annual report, "Vital Statistics of California."¹² Formulas used to calculate death rates are included in the technical notes of the "County Health Status Profiles" report.¹³

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¹¹ Klein RJ, Schoenborn CA. Healthy People 2010 Statistical Notes: Age Adjustment using the 2000 Projected U.S. Population. National Center for Health Statistics, DHHS Publication, No. 20. January 2001.

¹² Ficenec S, Bindra K. Vital Statistics of California, 2003. Center for Health Statistics, California Department of Health Services. August 2005.

¹³ Shippen S. County Health Status Profiles 2006. Center for Health Statistics, California Department of Health Services. April 2006.

Figure 5
Chronic Liver Disease and Cirrhosis Deaths
Age-Adjusted Death Rates
California, 2002-2004

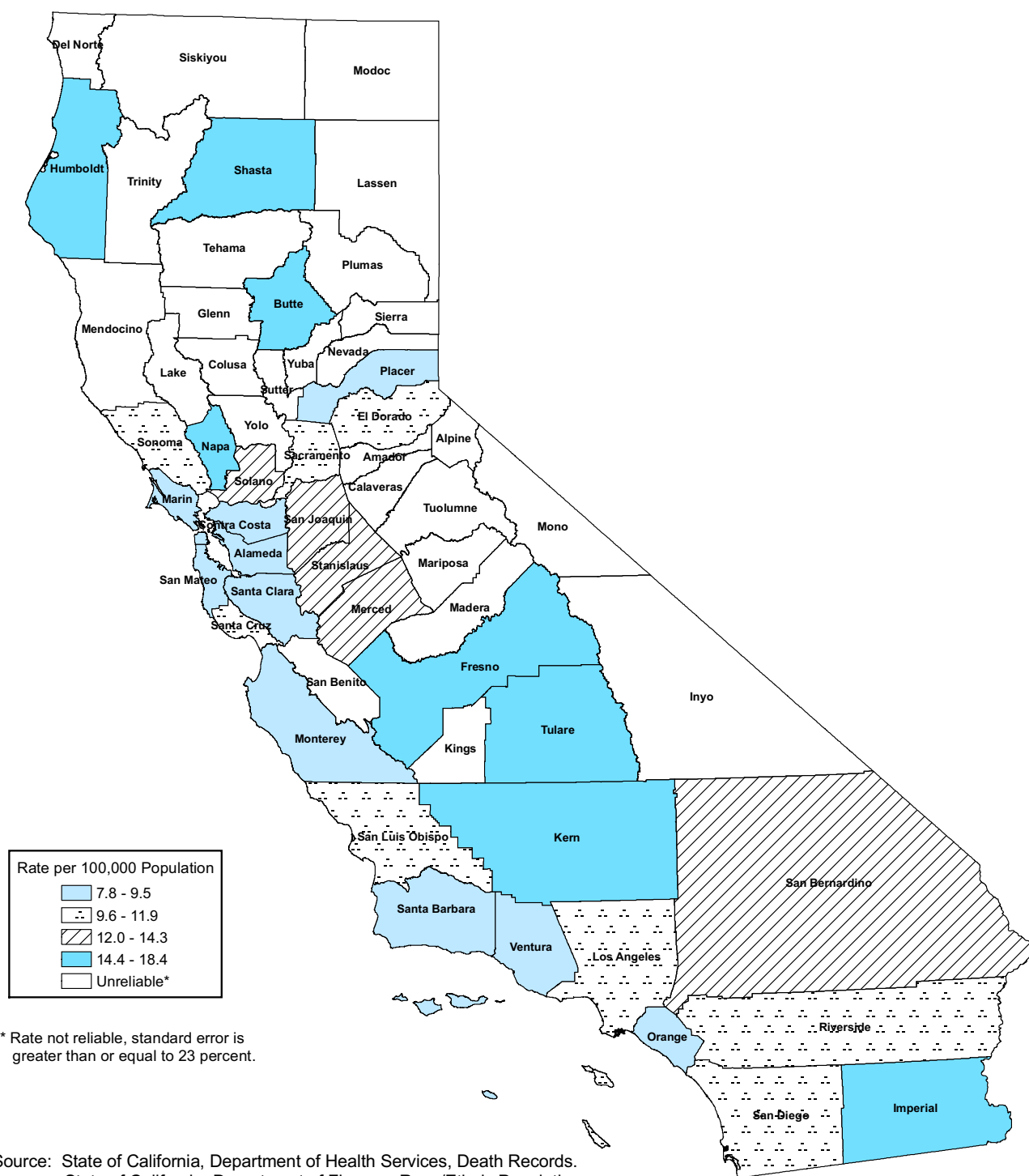


TABLE 1
CHRONIC LIVER DISEASE AND CIRRHOSIS DEATHS
BY RACE/ETHNICITY, AGE, AND SEX
CALIFORNIA, 2004
(By Place of Residence)

AGE GROUPS	DEATHS			POPULATION			RATES			95% CONFIDENCE LIMITS					
	TOTAL	MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL		MALE		FEMALE	
										LOWER	UPPER	LOWER	UPPER	LOWER	UPPER
TOTAL ¹															
Under 1	0	0	0	534,769	272,800	261,969	0.0 +	0.0 +	0.0 +	-	-	-	-	-	-
1 to 4	0	0	0	2,047,621	1,045,813	1,001,808	0.0 +	0.0 +	0.0 +	-	-	-	-	-	-
5 to 14	1	0	1	5,369,098	2,750,853	2,618,245	0.0 *	0.0 +	0.0 *	0.0	0.1	-	-	0.0	0.1
15 to 24	2	2	0	5,294,261	2,757,217	2,537,044	0.0 *	0.1 *	0.0 +	0.0	0.1	0.0	0.2	-	-
25 to 34	54	44	10	5,231,086	2,701,183	2,529,903	1.0	1.6	0.4 *	0.8	1.3	1.1	2.1	0.2	0.6
35 to 44	442	325	117	5,672,590	2,883,426	2,789,164	7.8	11.3	4.2	7.1	8.5	10.0	12.5	3.4	5.0
45 to 54	1,088	778	310	4,931,148	2,440,823	2,490,325	22.1	31.9	12.4	20.8	23.4	29.6	34.1	11.1	13.8
55 to 64	913	641	272	3,303,083	1,594,612	1,708,471	27.6	40.2	15.9	25.8	29.4	37.1	43.3	14.0	17.8
65 to 74	627	397	230	2,025,575	936,610	1,088,965	31.0	42.4	21.1	28.5	33.4	38.2	46.6	18.4	23.9
75 to 84	447	236	211	1,420,413	590,956	829,457	31.5	39.9	25.4	28.6	34.4	34.8	45.0	22.0	28.9
85 & Older	111	54	57	546,767	187,361	359,406	20.3	28.8	15.9	16.5	24.1	21.1	36.5	11.7	20.0
Unknown	1	0	1												
Total	3,686	2,477	1,209	36,376,411	18,161,654	18,214,757	10.1	13.6	6.6	9.8	10.5	13.1	14.2	6.3	7.0
Age-Adjusted							10.6	14.9	6.6	10.2	10.9	14.3	15.5	6.2	7.0
AMERICAN INDIAN															
Under 1	0	0	0	3,420	1,749	1,671	0.0 +	0.0 +	0.0 +	-	-	-	-	-	-
1 to 4	0	0	0	10,132	5,219	4,913	0.0 +	0.0 +	0.0 +	-	-	-	-	-	-
5 to 14	0	0	0	44,098	22,317	21,781	0.0 +	0.0 +	0.0 +	-	-	-	-	-	-
15 to 24	1	1	0	45,586	23,211	22,375	2.2 *	4.3 *	0.0 +	0.0	6.5	0.0	12.8	-	-
25 to 34	2	2	0	36,784	18,309	18,475	5.4 *	10.9 *	0.0 +	0.0	13.0	0.0	26.1	-	-
35 to 44	5	4	1	43,965	21,368	22,597	11.4 *	18.7 *	4.4 *	1.4	21.3	0.4	37.1	0.0	13.1
45 to 54	19	15	4	42,504	20,200	22,304	44.7	74.3 *	17.9 *	24.6	64.8	36.7	111.8	0.4	35.5
55 to 64	12	8	4	26,857	12,754	14,103	44.7 *	62.7 *	28.4 *	19.4	70.0	19.3	106.2	0.6	56.2
65 to 74	6	2	4	12,903	5,996	6,907	46.5 *	33.4 *	57.9 *	9.3	83.7	0.0	79.6	1.2	114.7
75 to 84	7	3	4	6,734	2,840	3,894	104.0 *	105.6 *	102.7 *	26.9	181.0	0.0	225.2	2.1	203.4
85 & Older	0	0	0	3,868	1,435	2,433	0.0 +	0.0 +	0.0 +	-	-	-	-	-	-
Unknown	0	0	0												
Total	52	35	17	276,851	135,398	141,453	18.8	25.8	12.0 *	13.7	23.9	17.3	34.4	6.3	17.7
Age-Adjusted							20.5	27.5	14.0 *	14.7	26.4	17.9	37.2	7.1	21.0
ASIAN															
Under 1	0	0	0	48,115	24,552	23,563	0.0 +	0.0 +	0.0 +	-	-	-	-	-	-
1 to 4	0	0	0	188,290	96,379	91,911	0.0 +	0.0 +	0.0 +	-	-	-	-	-	-
5 to 14	0	0	0	498,432	257,125	241,307	0.0 +	0.0 +	0.0 +	-	-	-	-	-	-
15 to 24	0	0	0	567,146	291,640	275,506	0.0 +	0.0 +	0.0 +	-	-	-	-	-	-
25 to 34	4	4	0	618,710	302,916	315,794	0.6 *	1.3 *	0.0 +	0.0	1.3	0.0	2.6	-	-
35 to 44	11	9	2	671,272	321,320	349,952	1.6 *	2.8 *	0.6 *	0.7	2.6	1.0	4.6	0.0	1.4
45 to 54	24	22	2	609,567	284,594	324,973	3.9	7.7	0.6 *	2.4	5.5	4.5	11.0	0.0	1.5
55 to 64	30	20	10	385,197	179,303	205,894	7.8	11.2	4.9 *	5.0	10.6	6.3	16.0	1.8	7.9
65 to 74	19	13	6	245,629	107,974	137,655	7.7	12.0 *	4.4 *	4.3	11.2	5.5	18.6	0.9	7.8
75 to 84	31	15	16	154,086	64,809	89,277	20.1	23.1 *	17.9 *	13.0	27.2	11.4	34.9	9.1	26.7
85 & Older	14	6	8	50,569	20,013	30,556	27.7 *	30.0 *	26.2 *	13.2	42.2	6.0	54.0	8.0	44.3
Unknown	0	0	0												
Total	133	89	44	4,037,013	1,950,625	2,086,388	3.3	4.6	2.1	2.7	3.9	3.6	5.5	1.5	2.7
Age-Adjusted							3.4	4.9	2.1	2.8	4.0	3.9	6.0	1.5	2.7
BLACK															
Under 1	0	0	0	32,707	16,671	16,036	0.0 +	0.0 +	0.0 +	-	-	-	-	-	-
1 to 4	0	0	0	122,652	62,561	60,091	0.0 +	0.0 +	0.0 +	-	-	-	-	-	-
5 to 14	0	0	0	408,879	208,120	200,759	0.0 +	0.0 +	0.0 +	-	-	-	-	-	-
15 to 24	0	0	0	395,238	205,416	189,822	0.0 +	0.0 +	0.0 +	-	-	-	-	-	-
25 to 34	1	1	0	326,490	160,606	165,884	0.3 *	0.6 *	0.0 +	0.0	0.9	0.0	1.8	-	-
35 to 44	23	14	9	399,615	199,186	200,429	5.8	7.0 *	4.5 *	3.4	8.1	3.3	10.7	1.6	7.4
45 to 54	63	33	30	329,298	160,793	168,505	19.1	20.5	17.8	14.4	23.9	13.5	27.5	11.4	24.2
55 to 64	60	47	13	199,142	92,418	106,724	30.1	50.9	12.2 *	22.5	37.8	36.3	65.4	5.6	18.8
65 to 74	24	18	6	121,222	55,208	66,014	19.8	32.6 *	9.1 *	11.9	27.7	17.5	47.7	1.8	16.4
75 to 84	14	6	8	64,749	25,309	39,440	21.6 *	23.7 *	20.3 *	10.3	32.9	4.7	42.7	6.2	34.3
85 & Older	5	2	3	25,074	7,615	17,459	19.9 *	26.3 *	17.2 *	2.5	37.4	0.0	62.7	0.0	36.6
Unknown	0	0	0												
Total	190	121	69	2,425,066	1,193,903	1,231,163	7.8	10.1	5.6	6.7	8.9	8.3	11.9	4.3	6.9
Age-Adjusted							8.8	12.1	6.0	7.5	10.0	9.8	14.3	4.5	7.4
HISPANIC															
Under 1	0	0	0	273,401	139,443	133,958	0.0 +	0.0 +	0.0 +	-	-	-	-	-	-
1 to 4	0	0	0	1,003,339	512,381	490,958	0.0 +	0.0 +	0.0 +	-	-	-	-	-	-
5 to 14	1	0	1	2,503,684	1,279,931	1,223,753	0.0 *	0.0 +	0.1 *	0.0	0.1	-	-	0.0	0.2
15 to 24	1	1	0	2,275,634	1,199,542	1,076,092	0.0 *	0.1 *	0.0 +	0.0	0.1	0.0	0.2	-	-
25 to 34	28	27	1	2,332,753	1,244,497	1,088,256	1.2	2.2	0.1 *	0.8	1.6	1.4	3.0	0.0	0.3
35 to 44	174	149	25	1,954,969	1,014,652	940,317	8.9	14.7	2.7	7.6	10.2	12.3	17.0	1.6	3.7
45 to 54	362	299	63	1,228,904	607,654	621,250	29.5	49.2	10.1	26.4	32.5	43.6	54.8	7.6	12.6
55 to 64	236	164	72	636,784	298,857	337,927	37.1	54.9	21.3	32.3	41.8	46.5	63.3	16.4	26.2
65 to 74	188	102	86	357,389	157,978	199,411	52.6	64.6	43.1	45.1	60.1	52.0	77.1	34.0	52.2
75 to 84	125	62	63	190,758	78,695	112,063	65.5	78.8	56.2	54.0	77.0	59.2	98.4	42.3	70.1
85 & Older	13	6	7	58,423	20,677	37,746	22.3 *	29.0 *	18.5 *	10.2	34.3	5.8	52.2	4.8	32.3
Unknown	0	0	0												
Total	1,128	810	318	12,816,038	6,554,307	6,261,731	8.8	12.4	5.1	8.3	9.3	11.5	13.2	4.5	5.6
Age-Adjusted							15.6	22.4	9.3	14.6	16.6	20.7	24.1	8.3	10.4

Note : Rates are per 100,000 population. ICD-10 codes K70, K73-K74.

The year 2000 U.S. standard population is used for age-adjusted rates.

White, Black, Asian, and American Indian exclude Hispanic ethnicity.

Hispanic includes any race category.

¹ Includes deaths for Pacific Islander (8) and Two or More Races (17) which are not individually shown due to unreliable rates.

* Death rate unreliable, relative standard error is greater than or equal to 23 percent

+ Standard error indeterminate, death rate based on no (zero) deaths.

- Confidence limit is not calculated for no (zero) deaths.

Source : State of California, Department of Finance, Race/Ethnic Population with Age and Sex Detail, 2000-2050. May 2004.
State of California, Department of Health Services, Death Records.

TABLE 1 (Continued)
CHRONIC LIVER DISEASE AND CIRRHOSIS DEATHS
BY RACE/ETHNICITY, AGE, AND SEX
CALIFORNIA, 2004
(By Place of Residence)

AGE GROUPS	DEATHS			POPULATION			RATES			95% CONFIDENCE LIMITS					
	TOTAL	MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL		MALE		FEMALE	
										LOWER	UPPER	LOWER	UPPER	LOWER	UPPER
TOTAL ¹															
Under 1	0	0	0	534,769	272,800	261,969	0.0 +	0.0 +	0.0 +	-	-	-	-	-	-
1 to 4	0	0	0	2,047,621	1,045,813	1,001,808	0.0 +	0.0 +	0.0 +	-	-	-	-	-	-
5 to 14	1	0	1	5,369,098	2,750,853	2,618,245	0.0 *	0.0 +	0.0 *	0.0	0.1	-	-	0.0	0.1
15 to 24	2	2	0	5,294,261	2,757,217	2,537,044	0.0 *	0.1 *	0.0 +	0.0	0.1	0.0	0.2	-	-
25 to 34	54	44	10	5,231,086	2,701,183	2,529,903	1.0	1.6	0.4 *	0.8	1.3	1.1	2.1	0.2	0.6
35 to 44	442	325	117	5,672,590	2,883,426	2,789,164	7.8	11.3	4.2	7.1	8.5	10.0	12.5	3.4	5.0
45 to 54	1,088	778	310	4,931,148	2,440,823	2,490,325	22.1	31.9	12.4	20.8	23.4	29.6	34.1	11.1	13.8
55 to 64	913	641	272	3,303,083	1,594,612	1,708,471	27.6	40.2	15.9	25.8	29.4	37.1	43.3	14.0	17.8
65 to 74	627	397	230	2,025,575	936,610	1,088,965	31.0	42.4	21.1	28.5	33.4	38.2	46.6	18.4	23.9
75 to 84	447	236	211	1,420,413	590,956	829,457	31.5	39.9	25.4	28.6	34.4	34.8	45.0	22.0	28.9
85 & Older	111	54	57	546,767	187,361	359,406	20.3	28.8	15.9	16.5	24.1	21.1	36.5	11.7	20.0
Unknown	1	0	1												
Total	3,686	2,477	1,209	36,376,411	18,161,654	18,214,757	10.1	13.6	6.6	9.8	10.5	13.1	14.2	6.3	7.0
Age-Adjusted							10.6	14.9	6.6	10.2	10.9	14.3	15.5	6.2	7.0
WHITE															
Under 1	0	0	0	164,750	84,066	80,684	0.0 +	0.0 +	0.0 +	-	-	-	-	-	-
1 to 4	0	0	0	617,372	315,162	302,210	0.0 +	0.0 +	0.0 +	-	-	-	-	-	-
5 to 14	0	0	0	1,722,936	886,271	836,665	0.0 +	0.0 +	0.0 +	-	-	-	-	-	-
15 to 24	0	0	0	1,856,335	960,424	895,911	0.0 +	0.0 +	0.0 +	-	-	-	-	-	-
25 to 34	18	10	8	1,808,165	922,586	885,579	1.0 *	1.1 *	0.9 *	0.5	1.5	0.4	1.8	0.3	1.5
35 to 44	223	145	78	2,502,123	1,278,269	1,223,854	8.9	11.3	6.4	7.7	10.1	9.5	13.2	5.0	7.8
45 to 54	614	403	211	2,639,194	1,328,451	1,310,743	23.3	30.3	16.1	21.4	25.1	27.4	33.3	13.9	18.3
55 to 64	570	398	172	2,005,398	987,820	1,017,578	28.4	40.3	16.9	26.1	30.8	36.3	44.2	14.4	19.4
65 to 74	384	257	127	1,260,712	596,472	664,240	30.5	43.1	19.1	27.4	33.5	37.8	48.4	15.8	22.4
75 to 84	269	149	120	988,209	412,295	575,914	27.2	36.1	20.8	24.0	30.5	30.3	41.9	17.1	24.6
85 & Older	79	40	39	402,581	135,267	267,314	19.6	29.6	14.6	15.3	24.0	20.4	38.7	10.0	19.2
Unknown	1	0	1												
Total	2,158	1,402	756	15,967,775	7,907,083	8,060,692	13.5	17.7	9.4	12.9	14.1	16.8	18.7	8.7	10.0
Age-Adjusted							10.7	14.5	7.2	10.3	11.2	13.8	15.3	6.7	7.8

Note : Rates are per 100,000 population. ICD-10 codes K70, K73-K74.
The year 2000 U.S. standard population is used for age-adjusted rates.
White, Black, Asian, and American Indian exclude Hispanic ethnicity.
Hispanic includes any race category.

¹ Includes deaths for Pacific Islander (8) and Two or More Races (17) which are not individually shown due to unreliable rates.

* Death rate unreliable, relative standard error is greater than or equal to 23 percent
+ Standard error indeterminate, death rate based on no (zero) deaths.
- Confidence limit is not calculated for no (zero) deaths.

Source : State of California, Department of Finance, Race/Ethnic Population with Age and Sex Detail, 2000-2050. May 2004.
State of California, Department of Health Services, Death Records.

TABLE 2
CHRONIC LIVER DISEASE AND CIRRHOSIS DEATHS
CALIFORNIA, 2002-2004
(By Place of Residence)

COUNTY	2002-2004 DEATHS (Average)	PERCENT	2003 POPULATION	CRUDE RATE	AGE-ADJUSTED RATE	95% CONFIDENCE LIMITS	
						LOWER	UPPER
CALIFORNIA	3,747.7	100.0	35,934,967	10.4	11.0	10.6	11.4
ALAMEDA	134.0	3.6	1,495,367	9.0	9.3	7.7	10.9
ALPINE	0.3	a	1,268	26.3 *	19.6 *	0.0	86.3
AMADOR	6.3	0.2	37,074	17.1 *	13.0 *	2.7	23.3
BUTTE ¹	39.0	1.0	212,473	18.4	17.1	11.6	22.5
CALAVERAS	4.7	0.1	43,566	10.7 *	8.5 *	0.4	16.6
COLUSA	2.0	0.1	20,026	10.0 *	11.2 *	0.0	26.8
CONTRA COSTA ¹	90.0	2.4	1,003,704	9.0	8.8	6.9	10.6
DEL NORTE	4.0	0.1	28,192	14.2 *	13.0 *	0.2	25.8
EL DORADO	23.0	0.6	168,227	13.7	11.9	7.0	16.9
FRESNO ¹	111.7	3.0	855,469	13.1	15.5	12.6	18.4
GLENN	4.0	0.1	27,626	14.5 *	14.9 *	0.2	29.5
HUMBOLDT	23.3	0.6	129,515	18.0	16.8	9.9	23.6
IMPERIAL	21.0	0.6	153,673	13.7	15.8	9.0	22.6
INYO	7.0	0.2	18,617	37.6 *	31.4 *	6.9	56.0
KERN ¹	116.0	3.1	717,332	16.2	18.4	15.0	21.7
KINGS	17.0	0.5	138,763	12.3 *	15.7 *	8.1	23.2
LAKE	15.0	0.4	62,359	24.1 *	19.1 *	9.2	29.0
LASSEN	4.0	0.1	34,633	11.5 *	12.5 *	0.1	24.9
LOS ANGELES	1,058.0	28.2	10,047,236	10.5	11.4	10.7	12.1
MADERA	18.3	0.5	133,965	13.7 *	15.0 *	8.1	21.9
MARIN	26.3	0.7	250,252	10.5	8.4	5.1	11.6
MARIPOSA	3.0	0.1	17,886	16.8 *	13.0 *	0.0	28.2
MENDOCINO	10.3	0.3	89,156	11.6 *	10.4 *	3.9	16.9
MERCED	25.0	0.7	230,696	10.8	13.2	8.0	18.4
MODOC	0.7	a	9,541	7.0 *	4.6 *	0.0	15.7
MONO	1.0	a	13,443	7.4 *	6.1 *	0.0	18.1
MONTEREY	35.0	0.9	418,842	8.4	9.5	6.3	12.7
NAPA	22.7	0.6	130,920	17.3	15.4	9.0	21.8
NEVADA	14.3	0.4	96,923	14.8 *	11.5 *	5.4	17.6
ORANGE ¹	243.3	6.5	3,001,146	8.1	8.9	7.8	10.0
PLACER	29.0	0.8	285,336	10.2	8.9	5.7	12.2
PLUMAS	3.0	0.1	21,181	14.2 *	10.5 *	0.0	23.0
RIVERSIDE	187.0	5.0	1,758,719	10.6	11.1	9.5	12.7
SACRAMENTO	139.3	3.7	1,331,563	10.5	11.1	9.3	13.0
SAN BENITO	5.0	0.1	56,605	8.8 *	9.7 *	1.1	18.4
SAN BERNARDINO ¹	215.3	5.7	1,869,219	11.5	14.3	12.4	16.2
SAN DIEGO	279.7	7.5	2,989,178	9.4	10.1	8.9	11.3
SAN FRANCISCO ¹	74.0	2.0	786,980	9.4	8.6	6.6	10.5
SAN JOAQUIN	72.3	1.9	625,702	11.6	13.2	10.1	16.2
SAN LUIS OBISPO	30.0	0.8	257,452	11.7	10.5	6.7	14.3
SAN MATEO	69.7	1.9	712,772	9.8	9.1	7.0	11.3
SANTA BARBARA	36.7	1.0	412,069	8.9	9.3	6.3	12.3
SANTA CLARA ¹	127.7	3.4	1,723,819	7.4	7.8	6.4	9.1
SANTA CRUZ	28.0	0.7	259,220	10.8	10.5	6.6	14.5
SHASTA	31.0	0.8	175,421	17.7	16.2	10.4	22.0
SIERRA	1.0	a	3,563	28.1 *	29.2 *	0.0	88.6
SISKIYOU	7.7	0.2	45,081	17.0 *	13.3 *	3.5	23.1
SOLANO	51.0	1.4	416,406	12.2	12.7	9.2	16.2
SONOMA	52.0	1.4	473,274	11.0	10.3	7.5	13.2
STANISLAUS	58.3	1.6	489,491	11.9	13.7	10.2	17.2
SUTTER	8.3	0.2	84,978	9.8 *	9.9 *	3.2	16.6
TEHAMA	8.3	0.2	58,665	14.2 *	12.8 *	3.9	21.7
TRINITY	4.3	0.1	13,579	31.9 *	23.3 *	0.6	46.0
TULARE	48.7	1.3	392,989	12.4	15.3	11.0	19.7
TUOLUMNE	8.7	0.2	57,120	15.2 *	11.7 *	3.8	19.6
VENTURA ¹	67.0	1.8	799,114	8.4	8.4	6.4	10.4
YOLO	14.7	0.4	183,602	8.0 *	9.9 *	4.8	15.0
YUBA	9.7	0.3	63,979	15.1 *	16.6 *	6.1	27.0

Note : Rates are per 100,000 population. ICD-10 codes K70, K73-K74.

* Death rate unreliable, relative standard error is greater than or equal to 23 percent.

The year 2000 U.S. standard population is used for age-adjusted rates.

¹ County age-adjusted rate is significantly different from California age-adjusted rate.

a Represents a percentage of more than zero but less than 0.05.

Source : State of California, Department of Finance, Race/Ethnic Population with Age and Sex Detail, 2000-2050. May 2004.
State of California, Department of Health Services, Death Records.